

IN THE CLAIMS

1. (currently amended) A method of selecting, from among N [""]Spatial Video CODECs~~[""]~~ where N is an integer number greater than 1, the optimum [""]Spatial Video CODEC~~[""]~~ for a same input signal I, comprising the following steps:

obtaining from all the N [""]Spatial Video CODECs~~[""]~~, for the same input signal I and a same quality parameter Q, a rate R and distortion measures D, Q being an integer value between 0 and 100, defined by any rate-distortion algorithm to provide a compression of the input sequence with constant rate or with constant distortion, and

calculating an optimality criterion by using the value $L_n=f(R_n,D_n)$ calculated for all the n from 1 to N, n being the index of the [""]Spatial Video CODEC~~[""]~~, where $f(R_n,D_n)$ is a function of R_n and D_n ,

wherein the Spatial Video CODECs are aligned according to ~~the~~ a theoretical MSE and the quality parameter Q, MSE being the Mean Square Error and computed as

$$MSE = \frac{\Delta^2}{12} = \frac{(2^{(C_1-Q/C_2)})^2}{12} \text{ for the case of uniform quantization with an average step } \Delta \text{ defined as}$$

$\Delta = 2^{(C_1-Q/C_2)}$ where C_1 controls the minimal and maximal quality and C_2 the variation of the distortion according to quality parameter Q,

wherein the ~~optimally~~ optimality criterion is defined as the minimization of said value $L_n=f(R_n,D_n)$,

wherein said function is defined as the Lagrange optimization $f(R_n,D_n)=R_n+\lambda D_n$,

and wherein the Lagrange multiplier that ~~weights~~ weights the relative influence of the rate R and of the distortion D is defined as $\lambda = \frac{1}{2 \cdot \ln(2) \cdot MSE}$.

2. (previously presented) The method according to claim 1, wherein the input signal I is a natural image or a predicted image or any rectangular sub-block from a minimum size of 2x2 of the natural image or of the predicted image.

3. (currently amended) The method according to claim 1, wherein the rate R of the n -th ["]Spatial Video CODEC["] is approximated by $R = \alpha(N_T - \sum_{x_i=0}^{|x_i|<\Delta} N_{x_i})$, where N_{x_i} is the number of coefficients with an amplitude equal to x_i , N_T is the total number of coefficients, and the parameter α is derived from experimental results.

4. (currently amended) The method according to claim 1, wherein the distortion D of the n -th ["]Spatial Video CODEC["] is approximated by $D = \sum_{x_i=0}^{|x_i|<\Delta} x_i^2 N_{x_i} + \frac{\Delta^2}{12} \sum_{|x_i| \geq \Delta} N_{x_i}$, where x_i is the amplitude of the coefficients and N_{x_i} is the number of coefficients with an amplitude of x_i .

5. (currently amended) The method according to claim 2, wherein the rate R of the n -th ["]Spatial Video CODEC["] is approximated by $R = \alpha(N_T - \sum_{x_i=0}^{|x_i|<\Delta} N_{x_i})$, where N_{x_i} is the number of coefficients with an amplitude equal to x_i , N_T is the total number of coefficients, and the parameter α is derived from experimental results.

6. (currently amended) The method according to claim 2, wherein the distortion D of the n -th ["]Spatial Video CODEC["] is approximated by $D = \sum_{x_i=0}^{|x_i|<\Delta} x_i^2 N_{x_i} + \frac{\Delta^2}{12} \sum_{|x_i| \geq \Delta} N_{x_i}$, where x_i is the amplitude of the coefficients and N_{x_i} is the number of coefficients with an amplitude of x_i .

7. (currently amended) The method according to claim 3, wherein the distortion D of the n -th ["]Spatial Video CODEC["] is approximated by $D = \sum_{x_i=0}^{|x_i|<\Delta} x_i^2 N_{x_i} + \frac{\Delta^2}{12} \sum_{|x_i| \geq \Delta} N_{x_i}$, where x_i is the amplitude of the coefficients and N_{x_i} is the number of coefficients with an amplitude of x_i .